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INVOLUNTARY ENDOGENOUS RFID COMPLIANCE MONITORING AS A CONDITION OF FEDERAL SUPERVISED RELEASE--CHIPS AHOY?

ISAAC B. ROSENBERG

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INVOLUNTARY ENDOGENOUS RFID COMPLIANCE MONITORING AS A CONDITION OF FEDERAL SUPERVISED RELEASE--CHIPS AHOY?

ISAAC B. ROSENBERG*

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ABSTRACT

Among the many cutting edge technologies law enforcement agencies increasingly covet is radio frequency identification ("RFID"). Researchers predict RFID will become the most pervasive computer technology in history. Among the more extraordinary and controversial government uses of RFID—and the focus of this Paper—include implantation of subdermal RFID transmitters. Privacy concerns abound. Not surprisingly, critics and privacy advocates are wary of subdermal RFID implants, fearful that only a fine line separates relatively innocuous, voluntary implantation from arbitrary government-mandated implantation. But for involuntary implantation of RFID chips to take root, government implantation programs would have to start on the small scale, targeting the most unsavory and repugnant members of society: convicted sex offenders. Sex offenders are the foremost targets of our nation's "punitive zeal."

Some states have moved to chemically castrating certain types of sex offenders, while others have considered implementing lifetime GPS monitoring. And, for the better part of two years, the chipping of convicted sex offenders has lingered in the minds of concerned citizens and government officials alike, mutually frustrated with the serious inadequacies of existing sex offender punishment and registration regimes. Some have even explicitly called for forced implantation of sex offenders. In addition, to some extent, involuntary chipping remains implicitly "on the table" even in those states where legislatures have banned involuntary implantation altogether.

Recognizing that this is as much a political problem as it is a societal one, most agree that courts will have to rely on legislative sanction to have authority to order implanting of sex offenders. To date, there has been no federal legislation purporting to encourage or prohibit the use of tracking implants in anyone, let alone federally convicted sex offenders. This Paper analyzes how involuntary subdermal RFID could comply with existing federal sentencing laws, the Constitution, and public policy.

* J.D., May 2008, William & Mary School of Law. The Author would like to thank Professor Rebecca Hulse for her help and support developing this Paper in connection with her seminar on Privacy in the Technological Age. A shorter version of this Paper appears in the April 2008 issue of the Federal Sentencing Reporter.

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INTRODUCTION

The relentless march of technology promises to increase the efficiency and decrease the costs of law enforcement, while simultaneously threatening to endanger individual privacy rights.¹ Among the many cutting edge technologies law enforcement agencies increasingly covet is radio frequency identification (“RFID”). Researchers predict RFID will become the most pervasive computer technology in history.² Contemporary but mundane government uses of RFID include monitoring inventories and tracking medical records.³ Among the more extraordinary and controversial government uses of RFID—and the focus of this Paper—include implantation of subdermal RFID transmitters. Privacy concerns abound.

Not surprisingly, critics and privacy advocates are wary of subdermal RFID implants, fearful that only a fine line separates relatively innocuous, voluntary implantation from an all-out Orwellian nightmare, i.e., arbitrary government-mandated implantation.⁴ For involuntary implantation of RFID chips to take root, however, government implantation programs would have to start on the small scale, targeting the most unsavory and repugnant members of society: convicted sex offenders.⁵

¹ Such a realization is by no means novel. See *Lopez v. United States*, 373 U.S. 427, 471 (1963) (Brennan, J., dissenting) (“But our course of [Fourth Amendment] decisions, it now seems, has been outflanked by the technological advances of the very recent past.”); *Olmstead v. United States*, 277 U.S. 438, 473 (1928) (Brandeis, J., dissenting) (“Discovery and invention have made it possible for the government, by means far more effective than stretching upon the rack, to obtain disclosure in court of what is whispered in the closet.”).

² See Sanjay E. Sarma et al., *Radio Frequency Identification: Security Risks and Challenges*, 6 RSA LABORATORIES CRYPTOBITES 2 (2003).

³ See generally Reepal S. Dalai, Note, *Chipping Away at the Constitution: The Increasing Use of RFID Chips Could Lead to an Erosion of Privacy Rights*, 86 B.U. L. REV. 485 (2006) (discussing non-invasive RFID in non-penal and post-penal contexts).

⁴ William A. Herbert, *No Direction Home: Will The Law Keep Pace With Human Tracking Technology to Protect Individual Privacy and Stop Geoslavery?*, 2 INFO. SOC. J.L. & POL’Y 409, 436, 438 (2006) (noting claims by others that “human implant chips are Orwellian in nature” and concluding that “transferring the application of implant technology from animal chattel to humans, for the same purposes of identification and location control, creates the specter of geoslavery that may be violative of the Thirteenth Amendment”); see also Todd Lewan, *Microchip Implants Spark Privacy Worry Security Measure May Lead to Tracking*, CHI. TRIB., July 30, 2007, at 3 (“Chipping, these critics said, might start with Alzheimer’s patients or Army Rangers, but would eventually be suggested for convicts, then parolees, then sex offenders, then illegal aliens—until one day a majority of Americans, falling into one category or another, would find themselves electronically tagged.”).

⁵ See Lewan, *supra* note 4, at 3; Rob Stein, *Implanted Patient-Data Chips Stir Privacy Debate*, WASH. POST, Mar. 15, 2006, at 3 (quoting Marc Rotenberg of the Electronic Privacy Information Center as saying, “We’re just waiting for the first case where a convicted sex offender on condition of release is required to have a VeriChip

Sex offenders are the foremost targets of our nation's "punitive zeal."⁶ They receive some of the harshest post-incarceration treatment of all felons on federal supervised release,⁷ and every state in the nation requires sex offenders to maintain registration with state and local authorities.⁸ In addition to those sex offenses criminalized by the states, there are dozens of federal sex crimes,⁹ and federal law enforcement is becoming ever more vigilant in its hunt for predators.¹⁰ Understandably, communities across the country want sex offenders out of their

implanted"); Herbert, *supra* note 4, at 441 ("The criminal population most vulnerable to a potential program of mandated human tracking implants is those convicted of sex crimes.").

⁶ Wayne A. Logan, *Constitutional Collectivism and Ex-Offender Residence Exclusion Laws*, 92 IOWA L. REV. 1, 6 (2006).

⁷ Consider: (1) the Prosecutorial Remedies and Tools Against the Exploitation of Children Today Act of 2003 (Protect Act), Pub. L. No. 108-21, 117 Stat. 650 (codified as amended at 18 U.S.C. § 2423 (2000)), which contains a "two strikes and you're out" provision that imposes a mandatory life sentence on persons twice convicted of federal sex offenses against a minor; (2) the Adam Walsh Child Protection and Safety Act of 2006, Pub. L. No. 109-248, 120 Stat. 587 (2006), creating a national sex offender registry requiring convicted sex offenders, including some adjudicated delinquent as juveniles, to "register, and keep the registration current, in each jurisdiction where the offender resides, where the offender is an employee, and where the offender is a student" and providing funding for states and local governments to create and research electronic monitoring programs targeting sex offenders; (3) sections 3583(d) and (e) of the Sentencing Reform Act of 1984, Pub. L. No. 98-473, 98 Stat. 1987 (codified as amended at 18 U.S.C. §§ 3551-3673 (2006)), that allow a sentencing court to, "as an explicit condition of supervised release for a person who is a felon and required to register" as sex offender, to submit to near suspicionless searches by law enforcement of "his person, and any property, house, residence, vehicle, papers, computer, *other electronic communications or data storage devices or media*, and effects"; (4) 18 U.S.C. § 4042(c) (2007) (requiring the Federal Bureau of Prisons to notify local authorities of a sex offender's release at least five days prior to release; and, (6) the Dru Sjojin National Sex Offender Public Database Act of 2005, 145 S. 792, 109th Cong. (2005), requiring the Attorney General to make available a national sex offender registry via the internet.

⁸ See Catherine Carpenter, *The Constitutionality of Strict Liability in Sex Offender Registration Laws*, 86 B.U. L. REV. 295, 300 n.13 (2006); see also Jacob Wetterling Crimes Against Children and Sexually Violent Offender Registration Program, 42 U.S.C. § 14071 (2007) (which offers states money to encourage them to conform their state registration programs to guidelines promulgated by the U.S. Attorney General).

⁹ See, e.g., 18 U.S.C. § 2241 (2007) (aggravated sexual assault); § 2242 (sexual abuse); § 2243 (sexual abuse of a minor or ward); § 2244 (abusive sexual contact); § 2245 (sexual abuse resulting in death); § 2251 (sexual exploitation of children); § 2251A (buying or selling children); §§ 2252, 2252A, 2260 (child pornography).

¹⁰ See Jerry Markon, *Crackdown on Child Pornography: Federal Action, Focused on Internet, Sets Off A Debate*, WASH. POST, Dec. 15, 2007, at A1. By way of example, cybercrime, the majority of which involves child pornography, ranks third on the FBI's list of priorities, trailing close behind counterterrorism and counterintelligence. *Id.*

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neighborhoods, and states have gone to extreme lengths¹¹—even by de facto banishing offenders from most towns¹²—to allay citizens’ fears.

Some states have moved to chemically castrating certain types of sex offenders,¹³ while others have considered implementing lifetime GPS monitoring.¹⁴ And, for the better part of two years, the chipping of convicted sex offenders has lingered in the minds of concerned citizens and government officials alike, mutually frustrated with the serious inadequacies of existing sex offender punishment and registration regimes. Some have even explicitly called for forced implantation of sex offenders.¹⁵ In addition, to some extent, involuntary chipping remains

¹¹ Consider that on Halloween night in 2007, officials in South Carolina, Virginia, Illinois, Texas, California, New York, Tennessee, Maryland, and other states undertook to keep trick-or-treaters safe from opportunistic sex offenders by both corralling sex offenders into a single location during trick-or-treating hours and randomly searching the homes of sex offenders for Halloween decorations or suspicious amounts of candy. CNN.com, *Sex Offenders Locked Down, in the Dark for Halloween*, Oct. 31, 2007, <http://www.cnn.com/2007/US/10/31/halloween.offenders/index.html> (last visited Apr. 28, 2008).

¹² States have started adopting stringent “Jessica’s Laws”—named in response to the 2005 slaying of nine-year-old Jessica Lunsford by a neighborhood sex offender—which prohibit sex offenders from living within so many feet of schools or other places frequented by children. See Wendy Koch, *Sex-Offender Residency Laws Get Second Look*, U.S.A. TODAY, Feb. 26, 2007, at 1A; see also Jamie Fellner, *The Wrong Sex Offenders Laws*, L.A. TIMES, Sept. 18, 2007, at 21 (“Under California’s Proposition 83—also known as Jessica’s Law—sex offenders released from prison after the law took effect are barred from living within 2,000 feet of any school or park. Given the density of schools and parks in many areas, the residency restriction effectively banishes them for life from living in many cities and towns, often far from their homes, families, jobs and treatment.”); Editorial, *Don’t Banish Offenders: Aurora Flirts with Misguided Policy*, ROCKY MOUNTAIN NEWS, Apr. 22, 2007, at 5 (noting that an Aurora, Colorado ordinance would “target violent offenders and those who have attacked children. The forbidden zone would be anywhere within the city limits that’s 1,000 feet or closer to a school or recreation center.”). With few places left to live, hundreds of sex offenders in St. Petersburg, Florida, have over the years sought refuge in a single trailer park they describe as a “little piece of paradise.” CNN.com, *Trailer Park Becomes ‘Paradise’ for Sex Offenders*, Oct. 18, 2007, <http://www.cnn.com/2007/US/10/17/trailer.sexoffender/> (last visited Apr. 28, 2008).

¹³ See *infra* notes 140 to 154 and accompanying text.

¹⁴ See Michael Rothfield, *Viability of Sex-Offender Law In Doubt*, L.A. TIMES, Nov. 27, 2007, at 1.

¹⁵ See Nicole Brodeur, *What’s It Going to Take?*, SEATTLE TIMES, July 24, 2007, at B1 (describing the efforts of a citizen lobbyist in Washington to increase penalties for sex offenders who fail to register, including mandatory incarceration and forced implantation of tracking chips: “Hines has other ideas. Implant chips in offenders, and track them through GPS”); Patrick Cain, *Bill Would Bar Mandatory ID Implants: Ohio Companies Could Not Put Chips in Workers’ Skin*, AKRON BEACON J., July 21, 2006, at A1 (noting that at least one Ohio state senator recognized “there could be some uses for implanting the technology if the state wanted to track people such as sex offenders”); Jordan Carleo-Evangelist, *Candidate Wants to Track Sex Offenders: Assembly Challenger Offers Plan to Toughen Laws for Predators*, ALBANY TIMES UNION, Aug. 11, 2006, at B8 (describing the plan of a state legislature candidate to

implicitly “on the table” even in those states where legislatures have banned involuntary implantation altogether.¹⁶

implant tracking chips in convicted sex offenders to “allow officials to track violent sexual predators at all times”); Ryan J. Foley, *Bill Forbids Mandatory Microchip Implants, but Information Chip Would be Legal With Person's Consent*, ST. PAUL PIONEER PRESS, Apr. 25, 2006, at 1B (noting that an early version of a Wisconsin anti-chipping bill left the “door open for the state to order implants to track sex offenders”); Alan Gathright, *Bill Would Nip Chips in Humans*, ROCKY MOUNTAIN NEWS, Jan. 18, 2007, at 11A (“And a Wisconsin lawmaker unsuccessfully pushed for using [chips] to track sex offenders . . . according to a Wisconsin legislative report.”); Mary Lolli, *Official: Implant Chips into Offenders*, CINCINNATI POST, Mar. 29, 2005, at A5 (paraphrasing an Ohio county commissioner as “calling for a plan of implanting computer microchips into offenders so that they can be tracked and located immediately”). See also Cynthia Vigil, Letter to the Editor, LAS VEGAS REV.-J., Apr. 20, 2005, at 8B (“Simply implant a chip that allows authorities to track the offender's every move. Preposterous? This ordinary, average, everyday person doesn't think so. Put it on the next ballot and find out.”); Tanya Marie Smith, Letter to the Editor, TOPEKA CAPITAL J., Apr. 8, 2005, at A (“Why can't we implant a Global Positioning System device chip under the skin of these sub-humans?”). But see Daniel Nicholson, Letter to the Editor, THE JOURNAL GAZETTE (Fort Wayne, IN), May 11, 2005, at 12A (“Implanting sex offenders with a microchip only lets authorities know where they are, not what they are doing. . . . If, God forbid, one of these deviates [sic] should touch my daughters, I would plead with the judge for probation to let the offender go. That way I could deal with him myself.”).

¹⁶ As of December 2007, California, Wisconsin, and North Dakota had banned involuntary implantation of microchips in humans. See CAL. CIV. CODE § 52.7 (West 2008) (imposing civil damages for “the conditioning of any private or public benefit or care on consent to implantation” by “an individual, business association, partnership, limited partnership, corporation, limited liability company, trust, estate, cooperative association, or other entity”); WIS. STAT. ANN. § 146.25(1) (West 2007) (“No person may require an individual to undergo the implanting of a microchip.”); N.D. CODE § 12.1-15-06 (2007) (making it a misdemeanor for a person to require that an individual have inserted into that individual's body a microchip containing a radio frequency identification device). California State Senator Joseph Simitian has confirmed that the bill would prohibit implantation by the government. Email from Heather Barbour, Office of Sen. Joe Simitian, California Senate (Nov. 5, 2007, 18:24:07 EST) (on file with author) (“The bill was written broadly on purpose, and covers government and private coercion equally.”).

Several other states have tried, unsuccessfully, to enact similar legislation. See generally HB07-1082, 66th Gen. Ass. 1st Sess. (Colo. 2007) (“A person may not require an individual to be implanted with a microchip”); S.B. 2220 (Fla. 2007) (making it a felony to involuntarily implant a person without written informed consent); S.B. No. 349, 126th Gen. Ass., Reg. Sess. (Ohio 2007) (“No employer shall require an employee of the employer to have inserted into the employee's body a radio frequency identification tag. Any employer who violates this section shall be subject to a fine of not more than one hundred fifty dollars per violation”); S.B. 47 (Okla. 2007) (making it unlawful to “require an individual to undergo the implanting of a microchip.”). But see H.B. 276 (Ga. 2007) (“The provisions of this Code section shall not apply to devices that are not implanted and are being used pursuant to a judicial order, as a condition of probation or parole, or to monitor a sex offender.” (emphasis added)).

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Recognizing that this is as much a political problem as it is a societal one, most agree that courts will have to rely on legislative sanction to have authority to order implanting of sex offenders.¹⁷ To date, there has been no federal legislation purporting to encourage or prohibit the use of tracking implants in anyone, let alone federally convicted sex offenders.¹⁸ This Paper analyzes how involuntary subdermal RFID could comply with existing federal sentencing laws, the Constitution, and public policy.

In Part I, this Paper provides some background on what subdermal RFID is, how it works, and why it might be a desirable method of electronic compliance monitoring. Part II considers whether involuntary chipping of convicted sex offenders would comport with existing federal law—namely, the Sentencing Reform Act of 1984 (“SRA”)¹⁹—and the Fourth and Eighth Amendments. Finally, Part III suggests that federal sentencing judges considering offering²⁰ implantation as a condition of

¹⁷ See, e.g., Lolli, *supra* note 15 (“Sheriff Richard K. Jones said it would first take an act of the state legislature to give courts the authority to order such implanting.”).

¹⁸ That said, the REAL ID Act of 2005 included a provision that encouraged the use of universal passive RFID in government issued identification. H.R. 418, 109th Cong. § 202(b) (2005) (“To meet the requirements of this section, a State shall include, at a minimum, the following information and features on each driver’s license and identification card issued to a person by the State: . . . (9) A common machine-readable technology, with defined minimum data elements.”). See also Barb Dybwab, *The Real ID Card: The Machine Readable You*, Engadget.com, May 7, 2005, <http://www.engadget.com/2005/05/07/the-real-id-card-the-machine-readable-you/> (last visited Apr. 28, 2008) (“Homeland Security hasn’t completely decided which machine readable technology they’ll use, but they’re leaning heavily towards RFID.”).

And, as one scholar notes:

As a practical matter, the best means of establishing informed public policy with respect to implant technology is through a deliberative legislative process on the national, state, and local levels along with informed and reasoned public debate. The article next discusses the congressional response to the development and use of other forms of human tracking technology over the past twenty years. The lack of substantial legislative movement in the field of tracking technology renders it unlikely that there will be a federal legislative response to human implants in the near future.

Herbert, *supra* note 4, at 443.

¹⁹ See Pub. L. No. 98-473, 98 Stat. 1987 (codified as amended at 18 U.S.C. §§ 3551-3673 (2006)).

²⁰ It is debatable whether conditioning supervised release on accepting a subdermal implant would amount to coercion. See Herbert, *supra* note 4, at 441-42 (“Individuals under house arrest, along with probationers and parolees, are granted ‘conditional liberty’ subject to special and unique restrictions including a significantly reduced expectation of privacy. . . . As a practical matter, most people convicted of a crime would prefer electronic location monitoring to incarceration.”); see also Larry Helm Spalding, *Florida’s 1997 Chemical Castration Law: A Return to the Dark Ages*, 25 FLA. ST. L. REV. 117, 136 (1998) (“Consent given in the context of a choice between incarceration and non-incarceration may not be fully voluntary.”).

supervised release refrain from doing so without legislative sanction, and concludes by proposing a few modest legislative considerations that would accommodate, but not require, the future use of implantable RFID.

I. WHAT IS RFID, HOW DO RFID IMPLANTS WORK, AND WHY USE RFID?

A. VERICHIP AND THE DEVELOPMENT OF SUBDERMAL RFID

RFID has been around since World War II.²¹ The first U.S. patents for an active²² RFID tag with rewritable memory issued in January 1973,²³ but developers took the technology to new commercially viable heights in the late 1970s and early 1980s.²⁴ By the 1990s, the first implants approved for use in living creatures were being used to track cattle and other chattel animals.²⁵

Human RFID implants, interestingly, are a product of the “War on Terror.” In the aftermath of September 11, Applied Digital Corporation created a subsidiary, VeriChip Corporation, to develop the first implantable RFID microchip to facilitate human identification.²⁶ In October 2004, the Food and Drug Administration approved VeriChip’s use of subdermal RFID in humans.²⁷ In 2007, the American Medical Association endorsed responsible use of implantable RFID for patient identification.²⁸

²¹ RFID Journal, *The History of RFID*, <http://www.rfidjournal.com/article/view/1338/1/129> (last visited Apr. 28, 2008).

²² See *infra* notes 38 to 45 and accompanying text.

²³ *Id.*

²⁴ Darren Handler, *The Wild, Wild West: A Privacy Showdown on the Radio Frequency Identification (RFID) Systems Technological Frontier*, 32 W. ST. U. L. REV. 199, 203 (2005).

²⁵ *Id.* at 203.

²⁶ VeriChip Corporation, *Corporate FAQ*, <http://www.verichipcorp.com/content/company/corporatefaq> (last visited Apr. 28, 2008) (“The roots of VeriChip trace back to the events of September 11, 2001 when New York firemen were writing their badge ID numbers on their chests in case they were found injured or unconscious. It was evident there was a desperate need for personal identification and information in emergency situations and that an implantable microchip could make a difference.”).

²⁷ See Tanya Talaga, *Medical Science Aims to Microchip You*, TORONTO STAR, Aug. 14, 2007, at A01.

²⁸ See American Medical Association, Report of the Council on Ethical and Judicial Affairs, *Radio Frequency ID Devices in Humans*, May 2007, available at http://www.ama-assn.org/ama1/pub/upload/mm/369/ceja_rec5a07.pdf. (“The informed consent process must include disclosure of medical uncertainties associated with these devices. . . . Physicians should strive to protect patients’ privacy by storing confidential information only on RFID devices utilizing informational security similar to that required for medical records. . . . Physicians should support research into the

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By September 2007, at least 2000 people worldwide had RFID chips implanted in their bodies,²⁹ including children in Britain,³⁰ the Mexican attorney general and members of his staff,³¹ as well as club patrons in Barcelona.³² Domestically, some of those “chipped” have been employees of private companies, who desired the implants because they believed them more secure than exogenous security control devices.³³ However, the majority of those chipped in the United States have been medical patients.³⁴ It is worth noting that VeriChip recently pitched its system to the Department of Defense as a means of carrying soldiers’ health information on the battlefield,³⁵ and touts its system’s “unique

safety and efficacy of RFID devices implanted in human beings, and examine the role of doctors regarding the nonmedical uses of the technology.”); *see also* Lewan, *supra* note 2, at 3.

²⁹ Patrick McGreevy, *Senate Blocks Mandatory ID Implants; The Bill Would Prevent Employers in the State From Requiring Workers to Have the Devices*, L.A. TIMES, Aug. 31, 2007, at B3.

³⁰ *See* Bonnie Kath, *Kid Safety Goes High-Tech; Emerging Technology and Gadgets Render Those Cupboard Locks Quaint*, CHICAGO TRIB., Sept. 9, 2007, at Q6.

³¹ Howard Wolinsky, *Penny for Your Thoughts—and Vital Statistics: Implanted Chip Can Save a Life; Lead to Loss of Privacy*, CHICAGO SUN TIMES, Aug. 29, 2006, at 48.

³² *Id.*

³³ *See* John Diaz, *A Chip on My Shoulder*, S.F. CHRONICLE, Aug. 12, 2007, at C4 (“[A] Cincinnati-based provider of video-surveillance equipment inserted glass-encapsulated microchips into the arms of two employees to increase the level of security to the company’s datacenter. . . . Those two workers volunteered.”).

³⁴ HCA recently approved VeriChip for use in patient tracking in their Florida hospitals, in order to improve patient care and safety, hospital operations, and workflow. *See* Beth Bachelder, *HCA North Florida Expands Its RTLS to Track Patients*, RFID Journal, Sept. 14, 2007, <http://www.rfidjournal.com/article/view/3615/> (last visited Apr. 28, 2008). A Maryland-based dialysis center teamed with VeriChip in 2007, hoping to enroll at least 250 patients this year with the aim of preventing unnecessary treatment in emergency situations. *See* Beth Bachelder, *Maryland Dialysis Center Prepares for Tag-Implantation Project*, RFID Journal, Sept. 3, 2007, <http://www.rfidjournal.com/article/view/3592/> (last visited Apr. 28, 2008). Finally, Alzheimer’s Community Care in Florida has begun a two-year patient tracking trial involving 200 patients. Claire Swedberg, *Alzheimer’s Care Center to Carry Out VeriChip Pilot*, RFID Journal, May 25, 2007, <http://www.rfidjournal.com/article/view/3340/> (last visited Apr. 28, 2008).

³⁵ *See* K.C. Jones, *VeriChip Wants to Test Human Implantable RFID on Military*, TechWeb Technology News, Aug. 23, 2006, <http://www.techweb.com/wire/192203522> (last visited Apr. 28, 2008); Sharon Weinberger, *Pentagon Studies Human Microchip Implants*, Wired Blog Network, Aug. 1, 2007, <http://blog.wired.com/defense/2007/08/washington-a-ne.html> (last visited Apr. 28, 2008) (noting that the Pentagon commissioned a \$1.6 million study in mid-2007). There is no indication whether the Army would require soldiers to subject themselves to implantation. External RFID technology is already widely used in intra-prison human tracking systems in several states. *See* Claire Swedberg, *L.A. County Jail to Track Inmates*, RFID Journal, May 16, 2005, <http://www.rfidjournal.com/article/articleview/1601/1/1/> (last visited Apr. 28, 2008).

utility for numerous key security, defense, homeland security and secure-access applications.”³⁶

B. HOW SUBDERMAL RFID IMPLANTS WORKS

RFID is fundamentally simple. Unlike GPS technology, which relies on a network of satellites to constantly transmit signals to receivers and triangulate a receiver’s location, speed, and direction,³⁷ RFID transmitters (or tags) communicate only with a proximate, compatible reader via radio frequency.³⁸ Information transmitted over the system hardware can be encoded, and directs the person receiving it to linked data in a corresponding system, or “platform.”³⁹ This bifurcation aims to ensure that vital data is not itself stored on the tags.⁴⁰

There are two types of RFID systems, “active” and “passive,” each with unique features that support different uses. Active systems involve independently powered, exogenous tags, typically capable of transmission and reading distances of up to several hundred feet.⁴¹ Active systems also can handle more sophisticated data because their larger tag size accommodates onboard, rewritable memory.⁴² Passive systems, on the other hand, use either endogenous or exogenous tags that can communicate simpler, read-only information over shorter distances, typically no more than ten feet.⁴³ Passive tags, which lack internal power sources, rely on the radio frequency energy provided by proximate readers to transmit data.⁴⁴ Active system tags are generally more expensive and

³⁶ VeriChip Corporation, *Privacy Policy*, <http://www.verichipcorp.com/content/company/privacy> (last visited Apr. 28, 2008) [hereinafter *Privacy Policy*].

³⁷ See *GPS: Your Supervising Officer is Watching*, THE THIRD BRANCH (Admin. Office of the U.S. Courts), Apr. 2007, <http://www.uscourts.gov/ttb/2007-04/gps/index.html> (last visited Apr. 28, 2008) [hereinafter *Supervising Officer*].

³⁸ VeriChip Corporation, *RFID 101*, <http://www.verichipcorp.com/content/company/rfid101> (last visited Apr. 28, 2008, 2007) [hereinafter *RFID 101*].

³⁹ *Id.*

⁴⁰ See *Privacy Policy*, *supra* note 36 (“The VeriMed microchip does not store health records. Rather, it stores a unique identification number, dedicated solely for rapid, secure patient identification and access to a health record database or other relevant databases. In all other respects, the unique microchip ID number is meaningless.”).

⁴¹ See *id.*

⁴² See *id.*

⁴³ See *id.*

⁴⁴ See VeriChip Corporation, *Our RFID Tags*, <http://www.verichipcorp.com/content/company/rfidtags> (last visited Apr. 28, 2008).

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have shorter operational lives than those of passive system tags, although active readers are less expensive than passive readers.⁴⁵

VeriChip's endogenous RFID tags are implanted in the skin, typically in the back of the upper right arm.⁴⁶ The procedure is purportedly relatively painless, performed under local anesthesia in an outpatient procedure.⁴⁷

C. WHY USE IMPLANTABLE RFID?

Concededly, to be effective, there must be an RFID infrastructure in place. That is, readers would have to be installed in places where convicted offenders both are required to be and are prohibited from being. This Paper assumes that such an infrastructure would be cost feasible and effective at detecting tags at distances greater than a few feet.⁴⁸

The government might prefer subdermal RFID to other types of electronic compliance monitoring for a number of reasons. First, there is decreased risk that an offender will tamper with or disrupt the device if it is under the skin.⁴⁹ Second, because passive devices are simpler than external GPS devices and active RFID devices, they need less servicing (if any) and last longer.⁵⁰ Even though passive readers are more expensive and require more power than those for active systems,⁵¹ the expense can

⁴⁵ VeriChip's passive tags cost between \$1 and \$3 per tag, with an operational life of three to ten years. *Id.* Active tags cost between \$25 and \$50 per tag, with an operational life of six months to five years, depending on the life of the internal power source, some of which are replaceable. *See RFID 101, supra* note 38.

⁴⁶ VeriChip Corporation, *VeriMed Patient Brochure*, at 4, available at [http://www.verimedinfo.com/files/Patient_VM-003R2\(web\).pdf](http://www.verimedinfo.com/files/Patient_VM-003R2(web).pdf) (last visited Apr. 28, 2008).

⁴⁷ *Id.*; *see also* VeriChip Corporation, *Privacy Policy*, <http://www.verichipcorp.com/content/company/privacy> (last visited Apr. 28, 2008) ("The insertion procedure, which is typically done in a physician's office, lasts just a few minutes and involves only local anesthetic followed by quick, painless insertion of the microchip.").

⁴⁸ RFID conspiracy theorists assert such is already the case. *See* Claire Swedberg, *Gentag to Commercialize Super RFID Technology*, *RFID Journal*, Sept. 12, 2007, <http://www.rfidjournal.com/article/articleview/3610/1/1/> (last visited Apr. 28, 2008).

⁴⁹ GPS bracelets are expensive to replace if they are tampered with or destroyed. *See, e.g.,* Suzanna Hartzell-Baird, *When Sex Doesn't Sell: Mitigating the Damaging Effect of Megan's Law on Property Values*, 35 *REAL EST. L.J.* 353, 393 (2006); Tim Smith, *Not All Sex Offenders on Registry Can Be Found*, *GreenvilleOnline.com*, July 14, 2005, <http://greenvilleonline.com/apps/pbcs.dll/article?AID=/20050714/NEWS01/50714001/1004> (last visited Apr. 28, 2008).

⁵⁰ According to VeriChip, passive RFID has an operational life of three to ten years, while active RFID devices' operational life depends entirely on the power source. *RFID 101, supra* note 38.

⁵¹ *See id.*

always be borne by the offender himself.⁵² And, electronic monitoring is currently several times less expensive than incarceration.⁵³ A recent report estimates that nearly \$55 billion is spent on incarceration annually at the state and federal levels, with continued prison growth projected to impose billions in additional costs in the coming years.⁵⁴ In concert with the likely diminishing expense of tracking technology, rising incarceration expenses will further expand the cost disparity between incarceration and electronic compliance monitoring.

Sex offenders may themselves consider RFID chipping to be a more desirable method of monitoring, at least in the abstract.⁵⁵ First, passive electronic compliance monitoring—that is, monitoring that does not track an offender’s every move, but merely pinpoints his presence in certain allowable or prohibited locations⁵⁶—might give sex offenders more freedom and encourage rehabilitation.⁵⁷ Put simply, an offender may feel freer to reintroduce himself into society without fear that even his most benign activities will raise official suspicion. Moreover, rather than being banished to the fringes of town⁵⁸—where they are more likely to go

⁵² Of course, there will be some offenders unable to afford to reimburse the government for the costs of such monitoring. In such cases offenders would help defray costs on an ability-to-pay basis. *Supervising Officer*, *supra* note 37.

⁵³ Megan A. Janicki, *Better Seen Than Herded: Residency Restrictions and Global Positioning System Tracking Laws for Sex Offenders*, 16 B.U. PUB. INT. L.J. 285, 296 (2007) (“This monitoring appears more efficient than keeping the offender imprisoned, however, which can cost the State \$45 per day.”).

⁵⁴ See THE PEW CENTER ON THE STATES, ONE IN 100: BEHIND BARS IN AMERICA 2008 11, 19 (2008), available at <http://www.pewcenteronthestates.org/uploadedFiles/One%20in%20100.pdf> (noting that a state trend toward less expensive community-based sanctions like community supervision, electronic monitoring and mandatory drug counseling might prove as much or more effective than jail); see also N.C. Aizenman, *New High in U.S. Prison Numbers*, WASH. POST, Feb. 29, 2008, at A01 (reporting on the Pew Center study).

⁵⁵ This analysis still presumes an offender would withhold consent to the procedure.

⁵⁶ See Julian Sanchez, *The Pinpoint Search: How Super-Accurate Surveillance Technology Threatens Our Privacy*, Reason, Jan. 2007, available at <http://www.reason.com/news/show/117074.html> (last visited Apr. 28, 2008) (quoting Jeffrey Rosen, a law professor at George Washington University and the author of *The Unwanted Gaze: The Destruction of Privacy in America* (2001), as saying, “Privacy people should be unequivocally and unambiguously enthusiastic about technologies that can manage to find illegal activity without intruding on innocent privacy interests.”).

⁵⁷ Janicki, *supra* note 53, at 295 (“The device ‘monitors, collects and records all movements and location data of every parolee 24/7,’ offering a more dependable way to supervise the offenders.”).

⁵⁸ See generally Logan, *supra* note 6, at 6-12 (detailing the myriad ways state and local governments regulate how and where registered sex offenders may live). Eighteen states prohibit sex offenders from living anywhere from 500 to 2000 feet from schools and other places where children potentially congregate—i.e., parks, playgrounds, youth centers, public swimming pools, free-standing video arcades, churches, and school bus

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underground and recidivate than comply with the conditions of their release⁵⁹—chipped offenders might be able to negotiate a shrinking of the protective rings surrounding many cities, due in no small part to the increasingly popular—and stringent—Jessica’s Laws.⁶⁰

Second, because subdermal implants are harder to tamper with and are more technologically stable,⁶¹ they could complement mandatory offender registration systems, which are very onerous, punishing failures to comply in many instances as strict liability felonies.⁶² Studies have shown that a substantial number of sex offenders do not comply with their registration requirements.⁶³ Implanted RFID chips could significantly reduce the risk an offender would fail to register, either deliberately or accidentally, by alerting officials of his presence.

Third, external tracking devices can be very physically uncomfortable⁶⁴ and can inflict additional stigma on the offender if visible to others.⁶⁵ An internal device, conversely, would be invisible to others

stops. *Id.* at 6-7. Countless local governments have been especially enthusiastic about imposing their own onerous exclusions. *See id.* at 9-10. Such restrictions have been upheld as constitutional as affording procedural due process because they did not infringe any fundamental rights or the Ex Post Facto provision of Article I of the Constitution. *See, e.g., Doe v. Miller*, 405 F.3d 700 (8th Cir. 2005).

⁵⁹ *See also* Logan, *supra* note 6, at 20 (“Exclusion very likely impedes development of familial, social, and therapeutic networks shown to reduce risk of recidivism, and discourages individuals from reporting their whereabouts, undercutting the core public awareness purpose of registration (and community notification).”).

⁶⁰ *See supra* note 12.

⁶¹ *See Our RFID Tags*, *supra* note 44 and accompanying text.

⁶² *See* Carpenter, *supra* note 8, at 302, 331-35 (noting that registration and reregistration is required for a broad number of offenses due to cooperative federalism, often requiring an offender’s name, address, photograph, fingerprints, and, sometimes, biological specimens, for anywhere between ten years and a lifetime).

⁶³ *See* Hartzell-Baird, *supra* note 49, at 391 & n.185 (“A national survey conducted in 2003 by Parents for Megan’s Law found that 24 percent of the more than 500,000 sex offenders in the country were not complying with the registration requirements.”).

⁶⁴ *See* Frank James, *U.S. Tracks Immigrants with Device; Electronic Anklets Free Some Awaiting Hearings from Stay in Detention Centers*, CHICAGO TRIB., Apr. 4, 2005, at 15 (quoting one anklet wearer as saying “the ankle bracelet was ‘a pain’—he had to wear it even in the shower and while sleeping, and it made it difficult to put his boots on”).

⁶⁵ Karen Eltis, *Predicating Dignity on Autonomy? The Need for Further Inquiry into the Ethics of Tagging and Tracking Dementia Patients with GPS Technology*, 13 ELDER L.J. 387, 406 (2005) (“[N]onphysical harms potentially attributable to the use of assistive technology involving GPS monitoring include the stigma and humiliation . . . that ensue from being tagged and tracked.”). *See also* Wired News, *States Track Sex Offenders by GPS*, Associated Press, July 31, 2005, <http://www.wired.com/science/discoveries/news/2005/07/68372> (last visited Apr. 28, 2008) (noting that lifetime GPS tracking regimes “are too onerous and attach the stigma and inconvenience of electronic anklets and GPS transmitters to those who may never commit a crime again”).

and undetectable to the offender.⁶⁶ Moreover, external devices often contain tamper-detecting elements that alert officials if the device is compromised.⁶⁷ VeriChip, conversely, does not contain an internal power source and is inaccessible under the skin, thus posing no risk that an offender might accidentally trigger a tamper alarm.⁶⁸

Of course, the technology has its shortcomings. Passive RFID tags must be within one to ten feet of a higher-powered reader.⁶⁹ The tags must be implanted and removed by a licensed medical professional.⁷⁰ Because they only carry a 16-digit identifier without any encryption, they are capable of being cloned.⁷¹ And, although VeriChip downplays the risk and the FDA has not revoked its approval, some studies have shown an increased risk of cancer around the implant site—at least in dogs and laboratory rodents.⁷² No doubt, as the technology improves and becomes cheaper, many of these deficiencies will be remedied.

⁶⁶ See VeriMed Brochure, *supra* note 46, at 4 (“The procedure is quick and relatively painless, completely undetectable, and performed right in your doctor’s office.”); see also U.S. Courts, *Home Confinement*, <http://www.uscourts.gov/fedprob/supervise/home.html#monitoring> (last visited Apr. 28, 2008) (“Key events also may be triggered by equipment malfunctions, tampering with the equipment, and loss of electrical power or phone service.”).

⁶⁷ See Hartzell-Baird, *supra* note 49, at 392 & n.194.

⁶⁸ See Janicki, *supra* note 53, at 295 (“Generally, GPS devices weigh approximately six ounces, are the size of a computer mouse, and are strapped to the ankle. The “device is waterproof to a depth of 15 feet, allowing for showering, bathing and swimming,” and is also tamper-proof; “[i]f its strap is cut, an alarm will sound, and the police and parole authorities will be notified immediately and given the parolee’s location.”); Swedberg, *supra* note 35 (noting that RFID bracelets used in state and city prison systems will stop transmitting if steel wire that runs the length of the bracelet is cut and have a sensor designed to set off an alarm if skin contact is lost).

⁶⁹ See *RFID 101*, *supra* note 38.

⁷⁰ See *Our RFID Tags*, *supra* note 44 (“Once inserted just under the skin, via a quick, painless outpatient procedure (much like getting a shot). . .”).

⁷¹ See Donald Melanson, *VeriChip’s Human-Implatable RFID Chips Clonable, Sez Hackers*, Engadget.com, July 24, 2006, <http://www.engadget.com/2006/07/24/verichips-human-implatable-rfid-chips-clonable-sez-hackers> (last visited Apr. 28, 2008). Even so, unlike those employees at the Cincinnati tech firm who received greater access for being chipped, see *supra* note 33, one would imagine few wanting to assume the identity of a restricted sex offender.

⁷² See Barnaby J. Feder, *Report of Cancer Hurts Maker of Chip Implants*, N.Y. TIMES, Sept. 11, 2007, at C9. But see VeriChip Corporation, *Effective Carcinogenicity Assessment of Permanent Implantable Medical Devices*, available at <http://www.verichipcorp.com/files/RodentSarcomagenesis092807Wustenberg.pdf> (last visited Apr. 28, 2008) (refuting carcinogenicity).

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II. COULD FORCED IMPLANTATION HAPPEN UNDER EXISTING FEDERAL SENTENCING LAW?

At the federal level, sentencing courts are limited in their choice of sentence primarily by three sources of law: federal criminal statutes,⁷³ which contain congressionally mandated sentencing ranges; the U.S. Sentencing Guidelines,⁷⁴ which contain many detailed instructions as to how criminal punishment determinations should be made; and, the Sentencing Reform Act of 1984 (“SRA”),⁷⁵ which allows a sentencing court to impose discretionary conditions of supervised release that satisfy articulated statutory purposes. Because forced implantation of sex offenders would probably occur after or in lieu of incarceration, only the SRA would be involved in this analysis.

The SRA generally empowers a sentencing court to consider both the defendant’s background and the crime being punished when imposing any condition of supervised release, but limits discretion by requiring that conditions reasonably relate to (1) deterring the defendant, (2) rehabilitating the defendant, or (3) protecting the public.⁷⁶ Given the potential for conditions that seriously restrict liberty, the SRA further requires that conditions restricting a probationer’s freedom be especially “fine-tuned” and prohibits “unnecessary deprivations” of liberty.⁷⁷ Reviewing courts consider *ad hoc*⁷⁸ only whether a sentencing court abused its discretion, a “very flexible” standard.⁷⁹ And it almost goes

⁷³ See generally 18 U.S.C. §§ 1-2725 (2006).

⁷⁴ U.S. SENTENCING GUIDELINES MANUAL (2007).

⁷⁵ Pub. L. No. 98-473, 98 Stat. 1987 (codified as amended at 18 U.S.C. §§ 3551-3673 (2006)).

⁷⁶ See *id.* §§ 3583(d)(1), 3553(a)(1), 3553(a)(2)(B)-(D).

⁷⁷ See *United States v. Modena*, 302 F.3d 626, 637 (6th Cir. 2002) (citing *United States v. Tolla*, 781 F.2d 29, 34 (2d Cir. 1986)); *United States v. Consuelo-Gonzalez*, 521 F.2d 259, 264 (9th Cir. 1975) (en banc); *cf.* *Washington v. Harper*, 494 U.S. 210, 223-24 (1990) (reaffirming that “the proper standard for determining the validity of a prison regulation claimed to infringe on an inmate’s constitutional rights is to ask whether the regulation is ‘reasonably related to legitimate penological interests’”). *But see* *United States v. A-Abras, Inc.*, 185 F.3d 26, 31 (2d Cir. 1999) (cataloging cases involving restrictions on associational freedoms, the imposition of community service requirements, and other more exotic conditions).

⁷⁸ See *United States v. Gementera*, 379 F.3d 596, 607 (9th Cir. 2004) (“[W]e are careful not to articulate a principle broader than that presented by the facts of this case. . . . [A] per se rule that [a particular condition] can never assist an offender to reassume his duty of obedience to the law would impose a narrow penological orthodoxy not contemplated by the Guidelines’ express approval of “any other condition [the district court] considers to be appropriate.”).

⁷⁹ See *id.*; *United States v. Terrigno*, 838 F.2d 371, 374 (9th Cir. 1988); see also Case Comment, *Ninth Circuit Holds That Shaming Punishment Does Not Violate the Sentencing Reform Act*; *United States v. Gementera*, 379 F.3d 596 (9th Cir. 2004), 118 HARV. L. REV. 825 (2004).

without saying that all conditions of supervised release must be constitutional.

A. FORCED IMPLANTATION COULD SATISFY THE SENTENCING REFORM ACT

1. “Reasonably Related to A Statutorily Permissible Purpose . . .”

A reviewing court examining a challenged condition of supervised release must first determine whether the condition “reasonably relates” to a statutorily permissible purpose.⁸⁰ The “reasonable relation” requirement is a “very flexible standard.”⁸¹

In addition to those discretionary probation⁸² conditions expressly enumerated in 18 U.S.C. § 3563(b)(1) through (b)(10) and (b)(12) through (b)(20), as well as those mandatory, discretionary, “standard” and “special” conditions outlined in the U.S. Sentencing Guidelines,⁸³ the SRA authorizes a sentencing court to impose “any other condition it considers to be appropriate.”⁸⁴ Non-enumerated conditions, however—such as involuntary chipping—must reasonably relate to “the nature and circumstances of the offense and the history and characteristics of the defendant,”⁸⁵ and must “involve no greater deprivation of liberty than is reasonably necessary” to (1) “afford adequate deterrence to criminal conduct,”⁸⁶ (2) “protect the public from further crimes of the defendant,”⁸⁷ and (3) rehabilitate the defendant.⁸⁸

⁸⁰ *Gementera*, 379 F.3d at 601.

⁸¹ *Id.* at 603.

⁸² As noted in *Gementera*: “Though the statutory authorities underlying conditions of probation and supervised release are distinct, the court’s supervised release jurisprudence has often relied upon authority from the probation context. In that context, the court probes the extent to which probation conditions serve the ‘dual objectives of rehabilitation and public safety.’” 379 F.3d at 600 n.7 (citations omitted).

⁸³ See U.S. SENTENCING GUIDELINES MANUAL § 5D1.3(a) (2004) (mandatory conditions); § 5D1.3(b) (discretionary conditions); § 5D1.3(c) (standard conditions); § 5D1.3(d) (“special” conditions relating to weapons possession, debt obligations, access to financial information, substance abuse and mental health program participation, deportation, and sex offenses); § 5D1.3(e) (additional “special” conditions such as community confinement, home detention, community service, occupational restrictions, and curfews).

⁸⁴ 18 U.S.C. § 3583(d) (2007). However, when a condition of supervised release is not on the enumerated list of mandatory or discretionary conditions, the sentencing court must provide defendants notice and an “opportunity to address personally its appropriateness” before it is imposed. See *United States v. Cope*, 506 F.3d 908, 917 (9th Cir. 2007) (citing *United States v. Wise*, 391 F.3d 1027, 1033 (9th Cir. 2004)).

⁸⁵ 18 U.S.C. § 3553(a)(1) (2007). This provision in particular demands ad hoc review of conditions of supervised release, given the idiosyncrasies of each case. See *supra* note 82.

⁸⁶ 18 U.S.C. § 3553(a)(2)(B) (2007).

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2. Involuntary Implantation Would “Reasonably Relate”

As a preliminary matter, the SRA already sanctions the use of electronic compliance monitoring when imposing home confinement “as an alternative to incarceration” and/or when a defendant violates a condition of his supervised release.⁸⁹ Moreover, the U.S. Probation Office already uses GPS monitoring to complement sex offender registration,⁹⁰ which is itself a “mandatory condition” of supervised release for some sex offenders under the now “advisory” Sentencing Guidelines⁹¹ and a discretionary condition for other types of offenders under the SRA.⁹² Thus, as a type of electronic monitoring, subdermal RFID used to monitor compliance would seem to fall within the general contours of the SRA.

Additionally, given the functional similarities subdermal RFID has to involuntary exogenous tracking systems, endogenous RFID tracking systems would likewise seem to “reasonably relate” to those interests served by endogenous monitoring systems. First, electronic compliance monitoring of sex offenders generally has been shown to reduce

⁸⁷ *Id.* § 3553(a)(2)(C).

⁸⁸ *Id.* § 3553(a)(2)(D).

⁸⁹ *Id.* § 3583(e)(4) (“The court may, after considering the factors set forth in section 3553 (a)(1), (a)(2)(B), (a)(2)(C), [and] (a)(2)(D) . . . order the defendant to remain at his place of residence during nonworking hours and, if the court so directs, to have compliance monitored by telephone or electronic signaling devices, except that an order under this paragraph may be imposed only as an alternative to incarceration.”). *See also* *United States v. Hager*, 288 F.3d 136, 137-38 (4th Cir. 2002) (“Home confinement is not incarceration. . . . Home confinement in this case is more properly viewed as a condition of supervised release.”).

⁹⁰ *See Supervising Officer*, *supra* note 37.

⁹¹ *See* *United States v. Booker*, 543 U.S. 220 (2005); *see also* 18 U.S.C. § 3563(a)(8) (2007) (“The court shall provide, as an explicit condition of a sentence of probation . . . for a person required to register under the Sex Offender Registration and Notification Act, that the person comply with the requirements of that Act.”); U.S. SENTENCING GUIDELINES MANUAL § 5D1.3(a)(7) (2003) (“[A] defendant convicted of a sexual offense as described in 18 U.S.C. § 4042(c)(4) shall report the address where the defendant will reside and any subsequent change of residence to the probation officer responsible for supervision, and shall register as a sex offender in any State where the person resides, is employed, carries on a vocation, or is a student.”).

⁹² *See* *United States v. Burke*, 2007 U.S. App. LEXIS 25100, at *12 (6th Cir. Oct. 23, 2007); *United States v. Kerr*, 472 F.3d 517, 521 (8th Cir. 2006) (“Because registration is a ‘mandatory condition’ under the advisory guidelines, . . . we conclude the district court did not plainly err in ordering [Kerr] to register as a sex offender as a condition of his supervised release.”). *But see* *United States v. Armendariz*, 451 F.3d 352, 361-62 (5th Cir. 2006) (finding that a sentencing court abused its discretion when it substituted the Texas sex-offender registration requirement for federal supervised release because it “was not an adequate substitute for the counseling and monitoring that can be mandated under federal supervised release, particularly in light of the heightened concern in sex offense cases with an offender’s potential for recidivism.”).

recidivism rates.⁹³ Second, subdermal RFID could equally complement mandatory registration and compliance, thereby protecting the public and deterring future criminal conduct.⁹⁴

3. “No Greater Deprivation of Liberty Than Is Reasonably Necessary . . .”

The second, and arguably harder to satisfy, discretionary limitation imposed on sentencing courts is that conditions involve “no greater deprivation of liberty than is reasonably necessary.”⁹⁵ Notwithstanding the flexible “reasonable relation” standard mentioned above, conditions that restrict a probationer’s freedom and substantive constitutional rights must be especially “fine-tuned.”⁹⁶ When a court imposes a condition that involves an “especially grave infringement of liberty,” it must articulate on the record reasons for imposing the condition.⁹⁷

Myriad cases have upheld conditions of supervised release that involved substantial deprivations of liberty when the deprivations were not unnecessary. In *United States v. Boston*,⁹⁸ the Eighth Circuit upheld a condition that prohibited a repeat child pornography offender from having “access to or possess[ing] a computer at home or elsewhere without the prior written approval of the U.S. Probation Officer” and prohibited all unapproved access to pornographic or erotic material.⁹⁹ In *United States v. Jeremiah*,¹⁰⁰ the Ninth Circuit upheld a condition that required the defendant to submit to as many as eight drug tests per month, even though he had no history of drug use.¹⁰¹ In *United States v. Ross*,¹⁰² the Ninth

⁹³ Janicki, *supra* note 53, at 297 & n.122 (“[A] 2004 Florida Department of Corrections comparison study found that ‘3.8% of offenders tracked with GPS committed a new felony within two years, compared with 7.7% of those supervised without it.’” (footnote omitted)).

⁹⁴ See *Supervising Officer*, *supra* note 37 (“The awareness . . . that a probation officer is tracking movements can be a deterrent, and alerts can give officers lead time to respond.”).

⁹⁵ 18 U.S.C. § 3583(d)(2) (2007).

⁹⁶ See *United States v. Modena*, 302 F.3d 626, 637 (6th Cir. 2002) (quoting *United States v. Tolla*, 781 F.2d 29, 34 (2d Cir. 1986)); *United States v. Bass*, 121 F.3d 1218, 1223 (8th Cir. 1997). But see *United States v. A-Abras, Inc.*, 185 F.3d 26, 31 (2d Cir. 1999).

⁹⁷ *United States v. Williams*, 356 F.3d 1045, 1055-56 (9th Cir. 2004) (“Where, as here, the liberty interest is one so weighty that even with respect to prisoners it can be overcome only with “a finding of overriding justification and a determination of medical appropriateness,” . . . the statutory standard cannot be met *unless the district judge makes an explicit, specific finding* under § 3583(d)(2).” (emphasis added) (citations omitted)).

⁹⁸ 494 F.3d 660 (8th Cir. 2007).

⁹⁹ *Id.* at 668.

¹⁰⁰ 493 F.3d 1042 (9th Cir. 2007).

¹⁰¹ *Id.*

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Circuit upheld a condition that prohibited the defendant from accessing “neo-Nazi paraphernalia/materials” and “from associating with known neo-Nazi/white supremacist members or affiliates.”¹⁰³ In *United States v. Williams*,¹⁰⁴ the Ninth Circuit found that an order forcing a defendant to take antipsychotic medication could be a valid requirement of supervised release in appropriate circumstances so long as the district court made on-the-record, medically-grounded findings that court-ordered medication is necessary to accomplish one or more of the factors listed in § 3583(d)(1).¹⁰⁵ Finally, in *United States v. Mickelson*,¹⁰⁶ the Eighth Circuit found that a condition requiring an offender to get prior approval before having contact with minors—including his grandchildren or other family members—was a reasonable means of ensuring that such contact remained appropriate, “given the fact that most sexual abuse of children takes place at the hands of family members or friends.”¹⁰⁷

In other cases, conditions that hewed too broadly into, or too permanently infringed upon, constitutionally protected rights were struck down as statutorily impermissible. In *United States v. Kenrick*,¹⁰⁸ the Third Circuit struck down a condition that placed a permanent, lifetime restriction on an offender’s access to all pornography, not just illegal depictions.¹⁰⁹ (The defendant did, however, have to submit to regular polygraph testing about his private sexual conduct and had to give DNA samples as directed by the probation officer.)¹¹⁰ Likewise, in *United States v. Voelker*,¹¹¹ the Third Circuit struck down a condition that imposed “an absolute lifetime ban on using computers and computer

¹⁰² 476 F.3d 719 (9th Cir. 2007).

¹⁰³ *Id.* at 722 (noting that the defendant “needed to be separated from other members of white supremacist groups ‘to have a chance of staying out of trouble’” (quoting *United States v. Showalter*, 933 F.2d 573, 575-76 (7th Cir. 1991))).

¹⁰⁴ 356 F.3d 1045 (9th Cir. 2004).

¹⁰⁵ *Id.*

¹⁰⁶ 433 F.3d 1050, 1057 (8th Cir. 2006).

¹⁰⁷ *Id.* at 1057 (citing Michele L. Earl-Hubbard, *The Child Sex Offender Registration Laws*, 90 NW. U. L. REV. 788, 851-52 (1996)). The court made the important distinction between prohibiting all access to his family members and “merely requir[ing] [Mickelson] to seek prior permission.” *Id.* (“If such permission is arbitrarily or unfairly denied, he is free to seek relief from the district court under § 3583(e). This arrangement does not constitute an abuse of discretion.”).

¹⁰⁸ 241 Fed. Appx. 10 (3d Cir. 2007).

¹⁰⁹ *Id.* at 11. The court also found the condition violated Kenrick’s First Amendment rights. *Id.* at 16.

¹¹⁰ *Id.* at 18-19 (“Polygraph testing could be beneficial in enhancing the supervision and treatment” and it “may increase the probability that a defendant will comply with the conditions of his supervised release” even though “there might be less restrictive methods available.” (internal citations omitted)).

¹¹¹ 489 F.3d 139 (3d Cir. 2007).

equipment as well as accessing the internet, with no exception for employment or education,”¹¹² equating the ban to one prohibiting the offender from ever possessing any books or magazines of any type for the remainder of his life.¹¹³ In *United States v. Chong*,¹¹⁴ the Ninth Circuit invalidated a condition that prevented the defendant from having unapproved physical contact with his wife—affecting his marital relationship, a fundamental liberty interest—even though his “history argue[d] in favor of the restriction, as [did] the clear danger he pose[d] to his wife.”¹¹⁵ Finally, in *United States v. Weber*,¹¹⁶ the Ninth Circuit stated that, although requiring the defendant to submit to penile plethysmograph testing¹¹⁷ could reasonably promote the goals of supervised release under § 3553, “there are alternatives available in the treatment of sexual offenders that are considerably less intrusive than plethysmograph testing and may be sufficiently accurate.”¹¹⁸

Given the ad hoc nature of supervised release condition appeals, it is difficult to distill universal principals, but there may be some general takeaways that linger beneath the surface. First, it seems that impermanent and nonrecurring invasions of liberty are more likely to be sustained, even if substantially limiting core freedoms, than those imposing lifetime limitations. Second, if a condition requires periodic physical invasions, a court will consider how offensive it is to general sensibilities and dignity vis-à-vis less humiliating alternatives.¹¹⁹ Finally,

¹¹² *Id.* at 144.

¹¹³ *Id.* at 145. *But cf.* *United States v. Crandon*, 173 F.3d 122 (3d Cir. 1999) (upholding a similarly broad ban that was in place only for three years).

¹¹⁴ 217 Fed. Appx. 637 (9th Cir. 2007). The *Chong* court came to its conclusion rather perfunctorily, merely noting that “the state is inserting itself into Chong’s marital relationship in an overly broad way, and the condition thus involves a greater deprivation of liberty than is reasonably necessary.” *Id.* at 639.

¹¹⁵ *Id.*

¹¹⁶ 451 F.3d 552 (9th Cir. 2006).

¹¹⁷ Plethysmograph testing involves placing a device on the penis to “measure[] its circumference and thus the level of the subject’s arousal as he is shown sexually explicit slides or listens to sexually explicit audio scenes.” *Id.* at 562.

¹¹⁸ *Id.* (“When viable and effective alternatives exist to plethysmograph testing, a procedure that involves intrusion on an especially significant liberty interest, a district court should be hesitant to impose that procedure as a supervised release condition and may do so only after explaining on the record why the alternatives are inadequate.”). Alternatives might include polygraph testing and Abel testing, a far less intrusive procedure that “involves exhibiting photographs to an individual and measuring the length of time he looks at each picture.” *Id.* at 567.

¹¹⁹ Compare repeated drug testing, which would include urinalysis and possible blood work, with infrequent plethysmograph testing.

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even conditions that are “on the verge” may be redeemed if attended by “more socially useful provisions” aimed at reintegration.¹²⁰

4. Involuntary Implantation Probably Would Not Involve an Unnecessary Deprivation

What makes subdermal RFID questionable is not so much the monitoring as it is the bodily invasion. But when compared to other bodily invasions tolerated under the SRA—namely drug testing and forced administration of antipsychotic drugs, in deserving cases—the implantation of a small, undetectable chip involves fewer actual “invasions.” The chip would be implanted and removed (or replaced) no more frequently than once every few years.¹²¹ Moreover, the fact that it is more permanently present in the offender’s body is mitigated by the fact that it is inert, innocuous, and undetectable to the implantee. Thus, unlike forced medication (or chemical castration¹²²), which has noticeable psychotropic and physical side effects, its presence in the body has no effect other than its intended purpose: to remind the offender that his actions are being monitored. Finally, the redeeming features of subdermal RFID, mentioned *supra* in Part I.C, can actually promote the offender’s privacy and better facilitate reintegration and rehabilitation than more conventional alternatives.

¹²⁰ See *United States v. Gementera*, 379 F.3d 596, 606 (9th Cir. 2004).

¹²¹ See *supra* notes 38-43 and accompanying text.

¹²² Which the Ninth Circuit acknowledged in *United States v. Cope* would be on the far end of the acceptability spectrum:

We have no doubt that chemical castration would, if prescribed against the will of a defendant on supervised release, implicate a particularly significant liberty interest. Like antipsychotic medication, chemical castration interferes with mental processes and alters behavior. It may also cause serious side effects, such as cancer and depression. As a result, chemical castration is certainly as intrusive as antipsychotic medication or penile plethysmograph testing. In fact, chemical castration may be found at the extreme end of the spectrum of intrusive medications and procedures, and there may well be other conditions of supervised release that qualify for *Williams* and *Weber* findings without reaching that level of intrusion. We do not doubt that there will be other types of medication or procedures designed to rehabilitate or deter, either extant or not yet in existence, which, if forced upon a defendant as a condition of supervised release, would implicate particularly significant liberty interests.

506 F.3d 908, 919 n.5 (9th Cir. 2007).

B. FORCED IMPLANTATION WOULD PROBABLY NOT VIOLATE THE CONSTITUTION

Anytime the government undertakes its law enforcement and punitive functions, it must satisfy the limitations the Constitution imposes. The two most salient provisions¹²³ in play with subdermal RFID monitoring are the Fourth Amendment prohibition against unreasonable searches and seizures and the Eighth Amendment prohibition against cruel and unusual punishment.

1. The Fourth Amendment

Implantation of a subdermal RFID chip might constitute a “seizure,” and collection of compliance data from a subdermal RFID implant a “search,” within the contours of the Fourth Amendment.¹²⁴ An unreasonable seizure under the Fourth Amendment can occur when law enforcement uses excessive force or restraints which “cause unnecessary pain”¹²⁵ or “serious discomfort.”¹²⁶ But, as noted above, the implantation process purportedly causes no discomfort, and the implant is undetectable to the implantee;¹²⁷ moreover, even if some discomfort were inflicted, the government interests served by the implant would mitigate a finding that the discomfort was “unnecessary.” Finally, the implantation procedure comes *after* conviction and does not involve a “virtually total divestment” of an offender’s control over surgical probing through the use of general anesthesia,¹²⁸ further tipping the balance in the government’s favor.

When it comes to searches, reasonableness is measured by balancing the individual privacy interests against the government’s

¹²³ Due process might also apply, although the threshold for unconstitutionality is very high: governmental conduct must “shock the conscience.” See *Rochin v. California*, 342 U.S. 165, 172 (1952) (“In each case ‘due process of law’ requires an evaluation based on a disinterested inquiry pursued in the spirit of science, on a balanced order of facts exactly and fairly stated, on the detached consideration of conflicting claims, on a judgment not ad hoc and episodic but duly mindful of reconciling the needs both of continuity and of change in a progressive society.” (internal citations omitted)). In *Rochin*, police handcuffed the defendant—whom they observed swallowing morphine capsules—and brought him to the hospital where they directed a doctor to pump the contents of the defendant’s stomach against his will. *Id.* at 166. The Court determined such conduct “shock[ed] the conscience” in violation of the Fourteenth Amendment Due Process Clause. *Id.* at 172. But see *Schmerber v. California*, 384 U.S. 757, 759-60 (1966) (no due process violation where blood sample was extracted *without consent* “by a physician in a simple, medically acceptable manner in a hospital environment”); *Breithaupt v. Abram*, 352 U.S. 432, 441 (1957) (same).

¹²⁴ See generally Herbert, *supra* note 4.

¹²⁵ See *Los Angeles County v. Rettele*, 127 S. Ct. 1989, 1993 (2007).

¹²⁶ See *Muehler v. Mena*, 544 U.S. 93, 103 (2005) (Kennedy, J., concurring).

¹²⁷ See *supra* note 47 and accompanying text.

¹²⁸ *Winston v. Lee*, 470 U.S. 753, 765 (1985).

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interests served by the search.¹²⁹ A Fourth Amendment privacy interest derives from both a person's subjective expectations and an objective expectation that society recognizes as reasonable.¹³⁰ But the essence of parole is "release from prison, before the completion of sentence, on the condition that the prisoner abides by certain rules during the balance of the sentence."¹³¹ Thus, parolees enjoy severely diminished expectations of privacy during the pendency of their supervised release.¹³² Moreover, to the extent that RFID monitoring puts only parolees' illicit activities "in plain view"—that is, unlike GPS monitoring, which captures *all* of an offender's movements 24/7, RFID merely captures evidence of compliance or non-compliance and nothing more¹³³—parolees' expectations of privacy all but cease to exist.¹³⁴

2. The Eighth Amendment

The Eighth Amendment prohibits cruel and unusual punishment, as measured by reference to "evolving standards of decency that mark the progress of a maturing society."¹³⁵ Both "unnecessary and wanton infliction of pain"¹³⁶ and "grossly disproportionate" sentences¹³⁷ violate the Eighth Amendment. At issue here is the insertion and continued presence of the RFID tag in the body of a parolee.

What makes the Eighth Amendment question especially interesting is contemporary society's apparently dwindling tolerance for sex offenders, as evidenced by aggressive Megan's Laws, Jessica's Laws, and state chemical castration laws.¹³⁸ Moreover, because the more "offensive" aspects of subdermal RFID are technological (rather than functional), the

¹²⁹ See *United States v. Knight*, 534 U.S. 112, 118-20 (2001).

¹³⁰ See generally *Katz v. United States*, 389 U.S. 347 (1967).

¹³¹ *Samson v. California*, 126 S. Ct. 2193, 2198 (2006) (quoting *Morrissey v. Brewer*, 408 U.S. 471, 477 (1972)).

¹³² *Id.* at 2199 (upholding the constitutionality of suspicionless searches of parolees, pursuant to state law requiring parolees to agree to search or seizure at any time).

¹³³ In this regard, RFID searches are more like a surgical blade than the blunt and clumsy tool GPS searches tend to be. See *supra* notes 56-57 and accompanying text.

¹³⁴ See *Payton v. New York*, 445 U.S. 573 (1980) (holding that the seizure of property in plain view involves no invasion of privacy and is presumptively reasonable).

¹³⁵ *Roper v. Simmons*, 543 U.S. 551, 561 (2005) (quoting *Trop v. Dulles*, 356 U.S. 86, 100-101 (1958)).

¹³⁶ *Gregg v. Georgia*, 428 U.S. 153, 173 (1976).

¹³⁷ See *Ewing v. California*, 538 U.S. 11, 20 (2003) ("The Eighth Amendment, which forbids cruel and unusual punishments, contains a 'narrow proportionality principle' that 'applies to noncapital sentences.'") (internal citations omitted); *United States v. Gonzales*, 121 F.3d 928, 942 (5th Cir. 1997).

¹³⁸ See *supra* note 12 and accompanying text.

pervasiveness of public use or acceptance of the technology may color a determination of “decency.”¹³⁹

As noted above, subdermal RFID inflicts little if any discomfort; thus, it would probably not implicate the “unnecessary and wanton infliction of pain” arm of the Eighth Amendment inquiry. In addition, because implantation would only last as long as supervised release—which itself must already satisfy the Eighth Amendment limitation on sentence length—subdermal chipping would probably satisfy a proportionality inquiry. Finally, the increasing pervasiveness of subdermal RFID, including its increasingly frequent use in children, militates against a finding that implantation violates our evolving standards of decency, notwithstanding some states’ anti-chipping legislation. If some parents think it acceptable to put chips in their children (debatable, for sure), chipping the scourge of society should be no more affronting.

3. Compared to Chemical Castration

Significant parallels also can be drawn between involuntary chipping and involuntary chemical castration. Both involve emergent technologies to address an enduring societal problem. Both involve bodily invasions as a means of correction. Both at first blush would seem to implicate the Eighth Amendment.

Chemical castration, or hormone suppression treatment, involves administering medroxyprogesterone acetate (MPA) to male offenders in order to lower testosterone levels and reduce sexual urges.¹⁴⁰ It is distinct from surgical castration, or orchiectomy, which involves the surgical removal of one’s testicles. Eight states—California, Florida, Georgia, Iowa, Louisiana, Montana, Oregon, and Wisconsin—have involuntary chemical castration statutes on the books.¹⁴¹ Of those, five have mandatory chemical castration for certain offenders—usually repeat offenders or those committing serious sex offenses against children.¹⁴² Only one state, Texas, allows for voluntary surgical castration.¹⁴³

¹³⁹ Cf. *Kyllo v. United States*, 533 U.S. 27, 40 (2001) (noting that the extent to which a device that is “not in general public use” is salient in determining the reasonableness of a search).

¹⁴⁰ See Peter J. Gimino, III, *Mandatory Chemical Castration for Perpetrators of Sex Offenses Against Children: Following California's Lead*, 25 PEPP. L. REV. 67, 73-75 (1997).

¹⁴¹ Charles L. Scott & Trent Holmberg, *Castration of Sex Offenders: Prisoners' Rights Versus Public Safety*, 31 J. AM. ACAD. PSYCHIATRY & L. 502, 503-04 (2003).

¹⁴² *Id.* at 504.

¹⁴³ Scott & Holmberg, *supra* note 141, at 504.

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The Supreme Court has deemed involuntary surgical castration unconstitutional,¹⁴⁴ and the South Carolina Supreme Court has held that voluntary surgical castration violated the state constitution's prohibition against cruel and unusual punishment and violated public policy.¹⁴⁵ Interestingly, three states that allow for involuntary chemical castration—California, Florida, and Wisconsin—have recently passed or have tried to pass anti-chipping legislation that does not provide a law enforcement carve out.¹⁴⁶

Chemical castration has been decried and extolled by scholars and advocates on both sides of the issue.¹⁴⁷ However, these state laws have faced infrequent and largely unsuccessful attacks. Of those state courts that have undone conditions of release imposing chemical castration, most have done so because such castration orders violated statutory authorizations, not constitutional rights.¹⁴⁸ As a constitutional matter,

¹⁴⁴ See *Skinner v. Oklahoma*, 316 U.S. 535 (1942) (invalidating under the Equal Protection Clause of the Fourteenth Amendment—and not the Eighth Amendment—a state three-strikes law that imposed involuntary surgical castration). For a contemporaneous, critical analysis of *Skinner*, see Note, *Constitutionality of State Laws Providing Sterilization for Habitual Criminals*, 51 YALE L.J. 1380 (1942)).

¹⁴⁵ See *State v. Brown*, 326 S.E.2d 410 (S.C. 1985) (holding that state trial judges could not condition parole of convicted sex offenders on their volunteering for surgical castration). The sentencing judge had offered surgical castration as an exercise of “wide, but not unlimited, discretion in imposing conditions of suspension or probation” conferred by state statute. *Id.* The South Carolina Supreme Court, however, found the condition “illegal and void as against public policy,” partially because the legislature had not condoned surgical castration as a condition of a suspended sentence. *Id.*

¹⁴⁶ See CAL. PENAL CODE § 645(b) (2007) (“Any person guilty of a second conviction of any offense specified in subdivision (c), where the victim has not attained 13 years of age, shall, upon parole, undergo medroxyprogesterone acetate treatment or its chemical equivalent, in addition to any other punishment prescribed for that offense or any other provision of law”); FLA. STAT. § 794.0235(1)(b) (2007) (“Notwithstanding any other law, the court . . . [s]hall sentence a defendant to be treated with medroxyprogesterone acetate (MPA), according to a schedule of administration monitored by the Department of Corrections, if the defendant is convicted of sexual battery as described in s. 794.011 and the defendant has a prior conviction of sexual battery under s. 794.011.”); WISC. STAT. § 980.08(4)(c) (2007) (“[T]he court may consider, without limitation because of enumeration . . . what arrangements are available to ensure that the person has access to and will participate in necessary treatment, including pharmacological treatment using an antiandrogen or the chemical equivalent of an antiandrogen if the person is a serious child sex offender”).

¹⁴⁷ Compare Lisa Kiessling, Comment, *Practicing Medicine Without a License: Legislative Attempts to Mandate Chemical Castration for Repeat Sex Offenders*, 32 J. MARSHALL L. REV. 381 (1999) and Lystra Batchoo, Note, *Voluntary Surgical Castration of Sex Offenders: Waiving the Eighth Amendment Protection from Cruel and Unusual Punishment*, 72 BROOKLYN L. REV. 689 (2007), with Caroline M. Wong, *Chemical Castration: Oregon's Innovative Approach to Sex Offender Rehabilitation, or Unconstitutional Punishment?*, 80 OR. L. REV. 267 (2001) and John S. Murray, Note, *California's Chemical Castration Law: A Model for Massachusetts?*, 24 NEW ENG. J. CRIM. & CIV. CONFINEMENT 731 (1998).

¹⁴⁸ See generally *Boone v. State*, 933 So.2d 1252, 1254 (Fla. App. 1 Dist. 2006)

however, no court appears to have struck down an involuntary chemical castration law.

A brief comparison of two cases—one from the early years of chemical castration and one from within the last few years—does demonstrate how “evolving standards,” even over just two decades, have fostered vastly different outcomes. In *People v. Gauntlett*, the Michigan Court of Appeals invalidated a state sentencing court’s order requiring the defendant to submit to chemical castration during his five-year probationary period.¹⁴⁹ Notwithstanding a broadly worded state statute that empowered sentencing courts to “impose other lawful conditions of probation as the circumstances of the case may require or warrant, or as in its judgment may be proper,”¹⁵⁰ the court found the condition unlawful because chemical castration had not “gained acceptance in the medical community as a safe and reliable medical procedure.”¹⁵¹ The court also voiced concerns over “the virtual impossibility of performance of the condition” because of the widespread unavailability of the treatment.¹⁵²

(“Because the trial court failed to comply with the mandatory statutory procedures before ordering MPA treatment, we reverse and strike that portion of Appellant’s sentence ordering MPA treatment”); *Johnson v. State*, 634 S.E.2d 134, 140 (Ga. App. 2006) (vacating castration sentence as a violation of O.C.G.A. § 16-6-4(d)(2)); *Jackson v. State*, 907 So.2d 696, 698-99 (Fla. App. 4 Dist. 2005) (holding that trial court failed to comply with Fla. Stat. § 794.0235); *Houston v. State*, 852 So.2d 425, 428 (Fla. App. 5 Dist. 2003) (also holding that trial court failed to comply with §794.0235).). *Cf.* *People v. Foster*, 124 Cal. Rptr.2d 22, 26 n.2 (Cal. App. 4 Dist. 2002) (McDonald, P.J., dissenting); *ACLU of Ark. v. State*, 5 S.W.3d 418, 422 (Ark. 1999) (Brown, J., dissenting) (“A surgical castration will now be performed on James Stanley, even though the General Assembly has not authorized this procedure which, in the absence of legislative approval, is plainly illegal. Castration by the government is a procedure which is fraught with historical, moral, social, medical, and penal implications and overtones. This court should not approve the procedure by judicial silence, but should confront the issue head on.”). *But cf.* *In re R.B.*, 765 A.2d 396, 400 (Pa. Super. 2000) (invalidating a trial court order requiring a juvenile to undergo chemical castration in the absence of legislative sanction because “such a treatment protocol for a juvenile is so radical in nature and goes to the essence of basic human behavior as to require the most stringent safeguards in its application necessitating legislation with the accompanying hearings, reviews and study as a policy matter rather than being imposed randomly by courts as a condition of probation, without statutory guidelines”); *Bruno v. State*, 837 So.2d 521, 523 (Fla. App. 1 Dist. 2003) (finding the trial court erred in ratifying a plea agreement that allowed the defendant to volunteer for surgical castration in exchange for a reduced sentence because the agreement was illegal to the extent it purported to require the defendant’s castration without statutory authorization).

¹⁴⁹ 352 N.W.2d 310, 316 (Mich. App. 1984).

¹⁵⁰ *Id.* at 314. Note how similar this appears to the facts in *State v. Brown*, 326 S.E.2d 410 (S.C. 1985), discussed *supra* at notes 144 and accompanying text.

¹⁵¹ *Gauntlett*, 352 N.W.2d at 316.

¹⁵² *Id.*

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More recently, in *People v. Steele*,¹⁵³ the California Court of Appeals took the near opposite position of that voiced by the Michigan court just sixteen years before, observing:

We do note, however, a recent law review comment suggesting that a societal consensus is emerging in favor of involuntary hormone suppression during parole, and that *its impermanent and limited nature* (in contrast with an orchiectomy) makes it a proportionate punishment for child molesters; thus, section 645 *does not impose cruel and unusual punishment*. . . . As for the remainder of the defendant's waived constitutional claims, *the right to refuse medical treatment* (assuming that it has any relevance in the context of punishment) *may be infringed in order to protect third parties*.¹⁵⁴

It appears our collective views on chemical castration may be diametrically shifting.

Of course, chemical castration differs from subdermal RFID in significant ways. Chemical castration attempts to nip the offense in the bud, while subdermal RFID seeks only to generally deter illegal conduct. In that sense, chemical castration as an invasion may seem more “necessary” under the Eighth Amendment than the implantation of an RFID tag. However, chemical castration, as noted, can have adverse emotional and physical effects because it pharmacologically modifies behavior. Some might say chemical castration is cruel and unusual because of such effects. On the other hand, even though subdermal RFID indirectly attacks illicit behavior by deterrence, it leaves the mind and body of the offender largely unaffected. There will always be trade-offs. At bottom, if chemical castration could survive constitutional muster, arguably so too could subdermal RFID.

**III. SENTENCING COURTS SHOULD NOT FORCE IMPLANTATION
WITHOUT CONGRESSIONAL SANCTION**

Even if federal sentencing courts *could* require a convicted offender to submit to involuntary implantation of an RFID tag, that does not mean they *should*. First, there is no state or federal RFID infrastructure to facilitate this kind of monitoring. Thus, even if a sentencing court did impose an implantation condition, it would be mostly ineffective, if not impossible, to implement.¹⁵⁵ Second, and perhaps more importantly, forced implantation is a hot-button political and social issue

¹⁵³ 2004 WL 2897955 (Cal. App. 3 Dist. Dec. 15, 2004).

¹⁵⁴ *Id.* at *2 n.1 (emphasis added).

¹⁵⁵ Although, a court could order readers be installed at certain government facilities, or in the offices of court appointed therapists, for example.

that the courts should avoid. Legislatures at all levels should consider the benefits and detriments of subdermal RFID for compliance monitoring and lead the charge themselves.

With that said, Congress should *not* do what many of the states have done, i.e., prematurely ban all forms of involuntary chipping without allowing for reasonable penological exceptions. As noted above, several states have made involuntary chipping a criminal offense;¹⁵⁶ ironically, many of those states allow for, if not mandate, involuntary chemical castration for certain types of sex offenders or have moved to lifetime GPS monitoring of all convicted sex offenders—even beyond the terms of their parole.¹⁵⁷ Hopefully, this Paper demonstrates in some respects how those divergent policies are irreconcilable.

What Congress *could* do is modestly amend portions of the SRA to accommodate, but not require, the use of subdermal RFID as a method of electronic compliance. Model legislation would ideally target nonviolent, non-repeat offenders, because violent and repeat offenders pose greater risks to the public that are less likely counteracted by electronic compliance monitoring.¹⁵⁸ Model legislation should also allow use of subdermal RFID only to complement (and not replace) existing rehabilitative conditions, like court-ordered therapy and vocational training. Moreover, those receiving implants should be given comprehensive mental and physical evaluations before implantation is approved, to minimize any adverse effects the implant might have and to make the condition more rehabilitative than punitive.¹⁵⁹ Finally, associated legislation should give states financial incentives to lessen the restrictions imposed on chipped offenders to further encourage their reintegration;¹⁶⁰ this would also require appropriations to the U.S. Probation Office—and probably the states—to build an RFID infrastructure to facilitate this kind of monitoring. Although this Paper does not address it, the legislation should conform to other privacy

¹⁵⁶ See *supra* note 16.

¹⁵⁷ See *supra* note 14 and accompanying text; see generally Ina Jaffe, *Calif. Follows Trend with Sex-Offender Crackdown*, NPR Morning Edition, Nov. 2, 2006, <http://www.npr.org/templates/story/story.php?storyId=6418295>.

¹⁵⁸ *Supervising Officer*, *supra* note 37 (“For us, [GPS monitoring] works best for those people with no history of violence or non-compliance. They’re also usually first-time offenders.”).

¹⁵⁹ See *supra* notes 6-12 and accompanying text.

¹⁶⁰ Just recently, the Georgia Supreme Court invalidated its aggressive Jessica’s Law, which prohibited sex offenders from living within 1000 feet of schools, churches, parks, gyms, swimming pools or any of the state’s 150,000 school bus stops. CNN.com, *Georgia’s Limits on Sex-Offender Housing Overturned*, Nov. 21, 2007, <http://www.cnn.com/2007/US/law/11/21/ga.sex.offenders.ap/index.html> (last visited Apr. 28, 2008).

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legislation;¹⁶¹ it might also be a good idea to adopt some standard, RFID conventions.¹⁶²

CONCLUSION

Without question, emerging technologies threaten individual privacy rights in ways we cannot always appreciate. But when a new technology has the potential to be used for malevolent purposes, potential alone should not prevent otherwise redeeming, responsible, and measured uses of that technology.

Subdermal RFID in convicted sex offenders, while eerie at first blush, has real potential to facilitate both the needs of law enforcement and the privacy interests of those implanted. Under existing federal sentencing laws, it appears that it could be offered as a condition of supervised release. But, government sanction of its use could go a long way.

The federal government should not enact knee-jerk legislation that would prohibit beneficial applications of subdermal RFID before it can be fully developed and explored. Such is the risk with improvident technology/privacy legislation.¹⁶³ This Paper does not argue that subdermal RFID is a panacea, by any means. Rather, it merely suggests that a more robust discussion be had about responsible implementation of the technology at the federal level, in an area that sorely needs fresh, precise, and, arguably, technological solutions.

¹⁶¹ See generally Jennifer E. Smith, *You Can Run But You Can't Hide: Protecting Privacy from Radio Frequency Identification Technology*, 8 N.C. J.L. & TECH. 249 (2007); Shane L. Smith, *Gone in a Blink: The Overlooked Privacy Problems Caused by Contactless Payment Systems*, 11 MARQ. INTELL. PROP. L. REV. 213 (2007).

¹⁶² See *supra* note 18.

¹⁶³ See Kevin Werbach, *Sensors and Sensibilities*, 28 CARDOZO L. REV. 2321, 2323 (2007) ("Legislatures are already adopting the knee-jerk reaction of banning or limiting technologies to preserve existing legal constraints, a strategy bound to fail in most cases. Instead, what is needed is a careful assessment of how law will come under pressure, and how it may need to change.").